

“ It was a delightful change of climate we made in six days’ sail from Britain, landing on a quay here, with a border in which bananas were flourishing, with lofty bushes of heliotrope covered with blossoms, and geraniums in full flower; an avenue of young *Phytolacca dioica*, and other symptoms of a warm climate. The first crop of peas we find is over, beans are now in perfection, strawberries in fruit, sweet roses in blossom. The wild plants are coming forward rapidly; the limestone hills are covered with the beautiful *Iris Sisyrinchium* and *sambucina*, though the latter is not so abundant; *Ophrys vespifera* or *lutea*, *arachnites* and *Orchis morio*, several *Antirrhinums*, *Cistuses*, the delicate *Ulex australis*, several *Rutas*, *Cerithe aspera*, or a variety with purple blossoms striped with white (that I got in Italy and Greece was tinged with yellow); several species of *Calendula*; *Bellis annua*, *sylvestris* and *perennis*, the last the least common; the beautiful *Narcissus Bulbocodium*, *Ornithogalum umbellatum*, *Vinca major* in great profusion and beauty; *Cynoglossum*, *Lupinus*, *Illecebrum Paronychia*, *Arum Arisarum* and *maculatum* (or one which comes very near it), *Aristolochia longa*, *Asphodelus ramosus* and *fistulosus*, *Oxalis tuberosus* and *corniculatus*. *Genista triacanthos*, *Anemone ranunculoides*, and many other plants are now in perfection, as is the delicate annual fern, *Gymnogramma leptophylla*. In the hedges, *Rubus fruticosus*, *Smilax nigra* and *aspera* are abundant, the two latter in fruit; *Ficaria ranunculoides* is very large; *Urtica membranacea* and *urens*, both abundant. I have not observed any other species of this genus. One of the most showy plants in the gardens at present is *Antholyza aethiopica*, which grows in large beds in damp shady situations; *Calla aethiopica* is also in great abundance and very fine. Palms, bamboos, *Dracæna Draco*, and other tropical plants, also flourish in the open air.”

In a subsequent letter to Dr. Neill, Mr. Trevelyan gives a full list of the plants in flower on 28th March. In this letter Mr. Trevelyan writes—“The *Cynomorium coccineum*, formerly known in medicine under the name of *fungus melitensis*, is a very common plant, very showy, and in great abundance on the roots of the shrubby *Cistus*. I hear that a company has been formed in Spain for the cultivation of the sugar-cane. Many things might be cultivated, were it not for the indolence and unenterprising nature of the people. No railroad has been commenced or determined on, and scarcely any improvements are going on in the country.”

3. Dr. Balfour read a letter which he had received from Dr. Cleg-horn, a Fellow of the Society, dated Teerthully, 27th March, in which he states that since the end of October he had made a tour through the north-western division of Mysore, and collected a great number of interesting plants, especially in the western Ghats. Coloured drawings of most of them had been executed by a native (Maharatta) draughtsman who accompanied him. Specimens of many of the plants he purposes to send to the herbarium of the University of Edinburgh under the charge of the Botanical Society.

4. Dr. Balfour also read a letter from Dr. H. Giraud, also an active member of the Society, dated Bombay, 26th February. In this

letter Dr. Giraud gave an account of the Horticultural Society's garden at Bombay, of which he is Secretary, and alluded generally to the nature of the vegetation in the neighbourhood. He also noticed the mode of instruction adopted in the Medical College at Bombay, in which he lectures on Chemistry, Materia Medica and Botany.

## MISCELLANEOUS.

*Description of a new family and genus of Lizards from Columbia.*

By J. E. GRAY, Esq., F.R.S. &c.

THIS lizard, which has just been sent me from Hamburg, forms a peculiar family intermediate between the *Chalcides* and the *Anadiadæ*, having the smooth imbedded scales of the former and the complete feet and femoral pores of the latter.

## ARGALIADÆ.

Head covered with normal regular shields; cheeks, eyelid and eyebrows shielded; lower eyelid scaly, opaque; nostrils lateral, anterior, in the centre of a single nasal plate. Body subcylindrical, sides rounded, smooth. Scales in thin, smooth, imbedded, transverse series, scarcely overlapping; of the back, sides and tail four-sided, longer than broad, in alternating series; of the belly, front of vent, and under side of tail similar, but forming longitudinal series; of the throat broader than long; of the armpits small, subirregular; of the limbs oblong, of the under side nearly granular. Limbs rather short, strong; femoral pores distinct, numerous; claws short, compressed; tail cylindrical, tapering.

*Hab.* Tropical America.

## ARGALIA.

Like the family; toes 5·5, unequal.

*Argalia marmorata.* Brown, marbled with black-brown, beneath paler; throat black spotted.

*Hab.* Columbia. British Museum collection.

*On the detection of Spirally-dotted or Scalariform Ducts, and other Vegetable Tissues in Anthracite Coal.* By Prof. J. W. BAILEY, of the U. S. Military Academy.

On perusing an account of the results obtained by Schultz and Ehrenberg (Annals, vol. xvi. p. 69) in the microscopic examination of coal decarbonized by means of nitric acid and heat, I felt a desire to repeat the experiments and obtain if possible some of those "white splinters" which they found "composed of aggregated siliceous cells arranged in regular succession, of the structure of the prosenchymatous cells of wood." But just as I was about to commence the repetition of these experiments, it occurred to me that I might find the decarbonization in every stage of progress among the masses of some partially burned Pennsylvania anthracite with which a grate in my room was filled, in which the fire had been allowed to smother itself in its own ashes.

I was not disappointed, for I found that many of the masses or partly burned coal readily separated into numerous laminae, on almost all of which, when magnified, vegetable structure could be detected, and on many of which the tissues were preserved in a state of un-hoped-for perfection.

Several varieties of structure presented themselves, the most interesting of which however were well-characterized *dotted* or *scalariform ducts*, in a most perfect state of preservation, and forming somewhat rectangular plates, which are often several inches long and one or more broad. These specimens, whose beauty and perfection can scarcely be exaggerated, present all the original markings of the vessels with a distinctness which leaves scarcely anything to be wished for. They may be examined either as opaque objects, in which case the silica appears in relief against the black coal, and shows the form and markings of the tubes very finely; or still more satisfactory results may be obtained by melting some inspissated Canada balsam upon a plate of glass, and while melted touching it to a surface of the coal upon which the ducts had been previously found to exist. When the balsam has hardened, the coal may be pulled off, and it will be found that it leaves fixed upon the balsam a thin layer of silica, containing perfectly preserved dotted vessels, which when viewed as transparent objects are nearly as distinct in their markings as if freshly obtained from a recent plant. I have a large number of specimens, and hope to find means to place them in the hands of all interested in such researches.

Besides the dotted vessels, which appear to be something very different from the "prosenchymatous cells of wood" obtained by Schultz, other tissues occurred, among which were small masses of woody fibre with no definite markings, also layers appearing to be composed of the cells of the epidermis of the stem of some plant, and, rarely, traces of tissue presenting what appear to be the remains of stomata. All these require a more careful study before any very definite conclusion can be drawn from them.

A few inferences appear however to be fairly deducible from the examination already made, viz.—

1. It appears that almost every layer of the coal is composed of vegetable matter, which still retains very distinct remains of the original organic structure, and which consequently could never have been reduced to a homogeneous pulp.

2. The plants from which the coal was chiefly formed do not appear to have been allied either to the *Coniferæ* or the ordinary Dicotyledonous or Monocotyledonous plants. Their nearest analogues must probably be sought among the Acotyledons, among which Ferns and *Lycopodiaceæ* present similar vascular bundles, composed chiefly of bothrenchymatous tissue\*.

3. Even allowing for the effects of compression, it does not appear

\* Since the above was written, I have observed that Ad. Brongniart, in a recent Number of the 'Annals,' maintains that *Stigmaria*, *Sigillaria* and *Lepidodendron*, as well as *Noggerathia*, are all allied to the Gymnospermous Dicotyledons.



probable that the petioles of even the tree ferns could have furnished such large flattened plates of scalariform ducts unmixed with other tissues as are found in the coal, and which *very rarely* have any traces of fronds of ferns preserved in the same mass.

4. It is possible that the ducts in question may really have belonged to the *Stigmaria* itself. Lindley and Hutton, from the examination of a magnified section of a silicified *Stigmaria*, pronounce it to be a plant whose woody portions were entirely composed of *spiral vessels*; but their figure of these vessels, however interesting, leaves some room to suppose that *spirally dotted ducts* partly obscured by petrification might have been mistaken for true spiral vessels. [See Fossil Flora of Great Britain, vol. iii. pl. 166.] This view is confirmed by Unger, who attributes dotted ducts alike to the *Stigmaria* and the woody layers of *Lepidodendrea* and *Sigillaria* (Endl. Gen. Plant. sup. 2. pp. 5, 6).

5. Vascular bundles must certainly have extended from the scars found on the *Stigmaria* and *Sigillaria* to the deciduous appendages (see Foss. Flora, vol. i. plates 31, 32 and 33), whether these latter were leaves or radical fibres, and the partial decay of masses composed of numerous layers of such appendages would account for most of the appearances observed in the coal.

6. The proofs afforded by these examinations, that the coal is composed of layers, of great tenuity, of vegetable matters scattered in a confused manner, and that no trunks of trees or any considerable portion of their branches had anything to do with its formation, are in exact accordance with the inferences drawn by Prof. H. D. Rogers from an examination of the mechanical structure of unburned coal\*.

7. As anthracite is only bituminous coal which has lost its volatile matter, the results obtained from it apply to all varieties of the true coal of the carboniferous epoch. The presence of bitumen, however, and the consequent swelling and partial fusion of the ordinary coal, render it difficult to obtain from it the tissues in the perfection in which they may be found in anthracite.

*Physiological Remarks on the Statics of Fishes.* By JOH. MÜLLER.

Like all animals, fishes have a very delicate sense of the equilibrium of their body; they counteract any change in this position by means of movements, partly voluntary, partly instinctive. These last are seen in a very remarkable manner in the eyes, and they are so constant, so evident in the fish as long as it lives, that their absence suffices to characterize the death of the animal.

The equilibrium of the body of a fish in the water is independent of the natatory bladder; this organ may even interfere with it. The equilibrium of the fish, its horizontal position with the back upwards, depends solely on the action of the fins, and principally on the vertical fins.

The natatory bladder may assist the fish to increase or to diminish its specific gravity. By compressing the air which is contained in

\* See Transactions of the Association of American Geologists, p. 448.

it, the fish descends in the water; it rises again by relaxing the muscles which had served to compress the bladder. Moreover, the fish may remain at the bottom of the water, by the very fact of the pressure of the column of water on the air contained in the bladder.

By compressing more or less the posterior portion or the anterior portion of the bladder, the animal is able to render the anterior half or the posterior half of its body lighter at will; it can also take an oblique position, which allows a movement of rising or of descending in the water. The arrangement of the natatory bladder in some fishes might favour this action. The Cyprinoids and the Characi have two bladders, one before the other, and communicating together by a narrow tube. The anterior bladder is very elastic, whereas the posterior one is very slightly so; and in proportion as the fish rises in the water, the anterior bladder, which is the most elastic, must considerably increase in volume, and thus keep the head of the animal up, whilst the contrary must be the case when the fish descends.—*Müller's Archiv*, 1845, p. 456.

#### CICONIA ALBA.

A fine specimen of the Stork (*Ciconia alba*, Ray) was shot a few weeks since near Fermoy in the county of Cork. It appears that three individuals were seen, but this only was procured. It is now in the possession of the Rev. Mr. Bradshaw of this city. I am not aware of any authentic record of the species having been met with in Ireland before.

J. R. HARVEY, M.D.

Cork, June 17, 1846.

#### *Embryogeny of the Ornithomyiæ.* By M. BLANCHARD.

The *Ornithomyiæ*, or *Pupipares* of Latreille, are parasitic on mammiferæ and birds. They have for a long time attracted the attention of entomologists, by an exceptional mode of reproduction which distinguishes them from all other insects. They do not deposit eggs, nor even larvæ, like some other Diptera, but nymphs, the external envelope of which hardens in contact with the air, and from which issues a few days afterwards the perfect insect.

Anatomists are not agreed as to whether the embryos pass, in the maternal ovary, through the ordinary phases of the metamorphoses of insects. Latreille supposed that the nymphs are at first under the form of eggs, and pass their life as larvæ within the body of the mother. Leon Dufour, from examinations of the *Hippoboscus* of the horse, and the *Melophagus* of sheep, thinks, on the contrary, that the embryos of the *Ornithomyiæ* are never comparable to eggs or to larvæ.

M. Blanchard has examined the *Leptotena* of the stag, and he has found, in the ovary of the females, embryos which completely resemble the larvæ of the Diptera, by their soft teguments, their corneous head, their two long tracheæ, and their nervous system collected in the anterior part of the body. The only important difference

which he has observed is the imperfection of the alimentary canal, which in these young larvæ is not yet formed and is replaced by a mass of globules. These larvæ taking no nourishment, the intestinal canal appears to be developed more slowly; the individuals in the author's possession died too suddenly to allow him to observe this formation.—*Société Philom. de Paris*, Jan. 17th, 1846.

METEOROLOGICAL OBSERVATIONS FOR MAY 1846.

*Chiswick*.—May 1. Dry haze: overcast. 2. Overcast. 3. Dry haze. 4. Cloudy and fine. 5. Very fine: showers. 6. Showery: cloudy and fine. 7. Cloudy and fine. 8. Overcast: exceedingly fine: clear at night. 9. Very fine. 10. Slight rain: cloudy: clear. 11, 12. Very fine. 13. Light clouds: overcast: rain at night. 14. Clear: cold and dry. 15. Cloudless: light clouds and fine: clear and cold at night. 16. Uniformly overcast: dry haze: densely overcast at night. 17. Overcast: rain: clear. 18. Rain: cloudy: boisterous. 19. Very fine: thunder-showers: densely overcast. 20. Rain: heavy showers. 21—23. Very fine. 24. Slight fog: overcast and fine. 25, 26. Very fine. 27. Cloudless: very fine: overcast. 28, 29. Very fine. 30. Hot and dry. 31. Cloudless: hot and sultry: clear.

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|---|------------|
| Mean temperature of the month .....                   | 56°·16     |
| Mean temperature of May 1845 .....                    | 50·04      |
| Mean temperature of May for the last twenty years ... | 54·77      |
| Average amount of rain in May .....                   | 1·84 inch. |

*Boston*.—May 1. Fine. 2—4. Cloudy. 5, 6. Fine: rain P.M. 7. Cloudy. 8, 9. Fine. 10. Cloudy: rain early A.M. 11, 12. Fine. 13. Cloudy. 14—16. Fine. 17. Cloudy: rain early A.M. 18. Cloudy: rain A.M.: thunder P.M. 19. Fine. 20. Fine: hail and rain A.M. and P.M., with thunder and lightning. 21. Cloudy. 22. Fine: rain P.M. 23, 24. Fine. 25, 26. Cloudy. 27—29. Fine. 30. Fine: 3 o'clock P.M. 75°. 31. Fine.—N.B. The warmest May since 1833: it was 62°·8.

*Sandwich Manse, Orkney*.—May 1. Drizzle: damp. 2. Bright: clear. 3. Clear: aurora. 4. Bright: rain. 5, 6. Rain: cloudy. 7. Fine: rain. 8. Cloudy. 9. Clear: cloudy. 10. Clear: thunder and hail. 11. Bright: drops. 12. Bright: cloudy. 13, 14. Bright: fog. 15. Bright: cloudy. 16. Bright: clear. 17. Rain. 18. Fog: cloudy. 19—21. Damp: cloudy. 22. Rain: damp. 23. Showers: bright: cloudy. 24. Showers: clear. 25. Rain: cloudy. 26. Showers. 27, 28. Showers: cloudy. 29. Cloudy. 30. Rain: cloudy. 31. Cloudy: fine.

*Applegarth Manse, Dumfries-shire*.—May 1. Dropping day. 2. Fair and fine. 3. Fair and very fine. 4. Rain all day. 5. Heavy showers. 6. Showers. 7, 8. Fair and fine. 9. Fair and fine: a few drops P.M. 10. Heavy rain during the night. 11. Fair and fine. 12. Slight shower: growing weather. 13—16. Fair and fine. 17. Showery morning: cleared. 18. Showery all day. 19. Rain P.M. 20. Rain during the night: cleared. 21. Showers: thunder. 22. Drizzly all day. 23—25. Very fine day. 26. Very fine day: droughty. 27, 28. Very droughty. 29—31. Very warm.

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|--|--------------|
| Mean temperature of the month .....        | 52°·6        |
| Mean temperature of May 1845 .....         | 50·0         |
| Mean temperature of May for 23 years ..... | 51·0         |
| Mean rain in May .....                     | 1·96 inches. |
| Mean rain in May for 18 years .....        | 1·73 „       |



Meteorological Observations made by Mr. Thompson at the Garden of the Horticultural Society at Chiswick, near London; by Mr. Veall, at Boston; by the Rev. W. Dunbar, at Applegarth Manse, Dumfries-shire; and by the Rev. C. Clouston, at Sandwick Manse, Orkney.

| Days of Month. | Barometer. |        |                      |        |                   |                      | Thermometer. |       |                      |        |                   |                      | Wind.     |       |                      |        | Rain.             |                      |           |                 |                   |         |                   |                   |        |
|----------------|------------|--------|----------------------|--------|-------------------|----------------------|--------------|-------|----------------------|--------|-------------------|----------------------|-----------|-------|----------------------|--------|-------------------|----------------------|-----------|-----------------|-------------------|---------|-------------------|-------------------|--------|
|                | Chiswick.  |        | Dumfries-shire.      |        | Orkney, Sandwick. |                      | Chiswick.    |       | Dumfries-shire.      |        | Orkney, Sandwick. |                      | Chiswick. |       | Dumfries-shire.      |        | Orkney, Sandwick. |                      | Boston.   |                 | Dumfries-shire.   |         | Orkney, Sandwick. |                   |        |
|                | Max.       | Min.   | 8 $\frac{1}{2}$ a.m. | 9 a.m. | 9 p.m.            | 8 $\frac{1}{2}$ p.m. | Max.         | Min.  | 8 $\frac{1}{2}$ a.m. | 9 a.m. | 9 p.m.            | 8 $\frac{1}{2}$ p.m. | Max.      | Min.  | 8 $\frac{1}{2}$ a.m. | 9 a.m. | 9 p.m.            | 8 $\frac{1}{2}$ p.m. | Chiswick. | Dumfries-shire. | Orkney, Sandwick. | Boston. | Dumfries-shire.   | Orkney, Sandwick. |        |
| 1846.          |            |        |                      |        |                   |                      |              |       |                      |        |                   |                      |           |       |                      |        |                   |                      |           |                 |                   |         |                   |                   |        |
| May.           |            |        |                      |        |                   |                      |              |       |                      |        |                   |                      |           |       |                      |        |                   |                      |           |                 |                   |         |                   |                   |        |
| 1.             | 30.285     | 30.263 | 29.83                | 30.12  | 30.01             | 30.03                | 29.77        | 56    | 51                   | 55     | 53 $\frac{1}{2}$  | 44 $\frac{1}{2}$     | 46        | 49    | 46                   | 49     | 46                | 49                   | w.        | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 2.             | 30.208     | 30.125 | 29.64                | 30.00  | 30.02             | 29.81                | 29.97        | 68    | 52                   | 57     | 58 $\frac{1}{2}$  | 50                   | 49        | 46    | 49                   | 46     | 49                | 46                   | sw.       | w.              | w.                | w.      | w.                | w.                | w.     |
| 3.             | 30.083     | 29.932 | 29.59                | 30.00  | 29.98             | 30.04                | 30.10        | 70    | 52                   | 62.5   | 60.5              | 46 $\frac{1}{2}$     | 47        | 43    | 42                   | 43     | 42                | 43                   | e.        | calm            | e.                | e.      | e.                | e.                | e.     |
| 4.             | 29.866     | 29.721 | 29.50                | 29.80  | 29.60             | 30.03                | 29.87        | 66    | 46                   | 51     | 50                | 44                   | 47        | 43    | 42                   | 43     | 42                | 43                   | e.        | e.              | e.                | e.      | e.                | e.                | e.     |
| 5.             | 29.724     | 29.544 | 29.20                | 29.52  | 29.38             | 29.71                | 29.60        | 66    | 45                   | 61     | 60                | 43                   | 42        | 42    | 42                   | 42     | 42                | 42                   | e.        | calm            | ese.              | ese.    | ese.              | ese.              | ese.   |
| 6.             | 29.548     | 29.494 | 29.00                | 29.30  | 29.38             | 29.46                | 29.41        | 63    | 43                   | 57     | 60                | 46                   | 44        | 45    | 45                   | 45     | 45                | 45                   | sw.       | w.              | sw.               | sw.     | sw.               | sw.               | sw.    |
| 7.             | 29.750     | 29.665 | 29.15                | 29.49  | 29.52             | 29.44                | 29.41        | 66    | 43                   | 57     | 58                | 44                   | 47        | 45    | 47                   | 45     | 47                | 45                   | sw.       | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 8.             | 29.931     | 29.730 | 29.35                | 29.67  | 29.80             | 29.62                | 29.82        | 69    | 42                   | 59     | 58                | 44                   | 47        | 47    | 47                   | 47     | 47                | 47                   | w.        | calm            | nw.               | nw.     | nw.               | nw.               | nw.    |
| 9.             | 29.974     | 29.863 | 29.49                | 29.80  | 29.55             | 29.79                | 29.52        | 72    | 49                   | 61     | 62 $\frac{1}{2}$  | 37 $\frac{1}{2}$     | 51        | 48    | 49                   | 48     | 49                | 48                   | w.        | calm            | w.                | w.      | w.                | w.                | w.     |
| 10.            | 29.962     | 29.787 | 29.26                | 29.51  | 29.68             | 29.42                | 29.56        | 70    | 40                   | 56     | 57 $\frac{1}{2}$  | 47 $\frac{1}{2}$     | 49        | 47    | 49                   | 47     | 49                | 47                   | w.        | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 11.            | 30.093     | 30.058 | 29.50                | 29.81  | 29.82             | 29.73                | 29.80        | 72    | 34                   | 58.5   | 59                | 44                   | 53        | 49    | 49                   | 49     | 49                | 49                   | nw.       | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 12.            | 29.994     | 29.836 | 29.49                | 29.85  | 29.85             | 29.87                | 29.92        | 69    | 48                   | 60.5   | 64                | 43 $\frac{1}{2}$     | 54        | 48    | 48                   | 48     | 48                | 48                   | e.        | calm            | ese.              | ese.    | ese.              | ese.              | ese.   |
| 13.            | 29.734     | 29.713 | 29.35                | 29.86  | 29.98             | 30.04                | 30.19        | 69    | 46                   | 58     | 60                | 47                   | 47        | 46    | 46                   | 46     | 46                | 46                   | e.        | e.              | e.                | e.      | e.                | e.                | e.     |
| 14.            | 29.995     | 29.880 | 29.50                | 30.08  | 30.06             | 30.19                | 30.12        | 62    | 38                   | 57     | 62                | 44                   | 49        | 44    | 44                   | 44     | 44                | 44                   | e.        | ne.             | e.                | e.      | e.                | e.                | e.     |
| 15.            | 29.968     | 29.859 | 29.53                | 29.98  | 29.80             | 29.97                | 29.78        | 63    | 34                   | 57     | 62                | 36                   | 58        | 48    | 48                   | 48     | 48                | 48                   | e.        | e.              | ese.              | ese.    | ese.              | ese.              | ese.   |
| 16.            | 29.695     | 29.360 | 29.29                | 29.67  | 29.40             | 29.74                | 29.68        | 63    | 46                   | 52     | 56                | 45                   | 46        | 47    | 47                   | 47     | 47                | 47                   | e.        | e.              | e.                | e.      | e.                | e.                | e.     |
| 17.            | 29.218     | 29.184 | 28.69                | 29.10  | 29.03             | 29.42                | 29.13        | 61    | 36                   | 52     | 56                | 45                   | 46        | 45    | 45                   | 45     | 45                | 45                   | e.        | w.              | ne.-s.            | ne.-s.  | ne.-s.            | ne.-s.            | ne.-s. |
| 18.            | 29.139     | 29.023 | 28.64                | 28.94  | 28.90             | 29.11                | 29.16        | 62    | 46                   | 53     | 54                | 43                   | 49        | 47    | 47                   | 47     | 47                | 47                   | sw.       | s.              | ese.              | ese.    | ese.              | ese.              | ese.   |
| 19.            | 29.545     | 29.481 | 28.95                | 29.18  | 29.19             | 29.20                | 29.30        | 63    | 44                   | 58     | 59                | 46                   | 51        | 49    | 49                   | 49     | 49                | 49                   | sw.       | w.              | s.                | s.      | s.                | s.                | s.     |
| 20.            | 29.558     | 29.444 | 28.96                | 29.12  | 29.34             | 29.32                | 29.56        | 60    | 44                   | 58.5   | 61                | 47                   | 53        | 48    | 48                   | 48     | 48                | 48                   | sw.       | sw.             | sw.               | sw.     | sw.               | sw.               | sw.    |
| 21.            | 29.949     | 29.677 | 29.22                | 29.65  | 29.88             | 29.77                | 29.93        | 71    | 39                   | 60     | 65                | 45                   | 54        | 50    | 50                   | 50     | 50                | 50                   | se.       | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 22.            | 30.203     | 30.120 | 29.57                | 30.00  | 30.02             | 29.94                | 30.01        | 71    | 46                   | 64     | 66                | 45                   | 54        | 48    | 48                   | 48     | 48                | 48                   | se.       | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 23.            | 30.212     | 30.201 | 29.61                | 30.10  | 30.12             | 30.12                | 30.12        | 71    | 47                   | 63     | 64                | 45                   | 54        | 48    | 48                   | 48     | 48                | 48                   | s.        | calm            | s.                | s.      | s.                | s.                | s.     |
| 24.            | 30.232     | 30.202 | 29.67                | 30.12  | 30.11             | 30.04                | 30.07        | 75    | 45                   | 64     | 60                | 45                   | 51        | 47    | 47                   | 47     | 47                | 47                   | w.        | calm            | nw.               | nw.     | nw.               | nw.               | nw.    |
| 25.            | 30.207     | 30.102 | 29.61                | 30.05  | 30.00             | 29.87                | 29.84        | 75    | 53                   | 57.5   | 63                | 52                   | 50        | 48    | 48                   | 48     | 48                | 48                   | nw.       | calm            | nw.               | nw.     | nw.               | nw.               | nw.    |
| 26.            | 30.138     | 30.115 | 29.54                | 30.00  | 30.00             | 29.85                | 29.82        | 73    | 39                   | 57     | 60                | 48                   | 50        | 48    | 48                   | 48     | 48                | 48                   | w.        | calm            | w.                | w.      | w.                | w.                | w.     |
| 27.            | 30.109     | 30.046 | 29.52                | 29.97  | 29.98             | 29.88                | 30.03        | 71    | 42                   | 61     | 58                | 46                   | 47        | 46    | 46                   | 46     | 46                | 46                   | w.        | calm            | w.                | w.      | w.                | w.                | w.     |
| 28.            | 30.243     | 30.153 | 29.63                | 30.10  | 30.15             | 30.12                | 30.17        | 67    | 41                   | 61     | 64                | 42                   | 48        | 45    | 49                   | 49     | 49                | 49                   | e.        | calm            | w.                | w.      | w.                | w.                | w.     |
| 29.            | 30.320     | 30.305 | 29.74                | 30.20  | 30.18             | 30.13                | 30.04        | 73    | 39                   | 62     | 65                | 41                   | 57        | 51    | 51                   | 51     | 51                | 51                   | s.        | calm            | ws.               | ws.     | ws.               | ws.               | ws.    |
| 30.            | 30.300     | 30.154 | 29.72                | 30.16  | 30.15             | 30.04                | 30.17        | 79    | 44                   | 66     | 65                | 45                   | 50        | 49    | 49                   | 49     | 49                | 49                   | sw.       | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| 31.            | 30.178     | 30.130 | 29.57                | 30.12  | 30.10             | 30.17                | 30.14        | 81    | 46                   | 69     | 71                | 43                   | 54        | 51    | 51                   | 51     | 51                | 51                   | e.        | calm            | sw.               | sw.     | sw.               | sw.               | sw.    |
| Mean.          | 29.947     | 29.844 | 29.39                | 29.783 | 29.773            | 29.802               | 29.806       | 68.29 | 44.03                | 58.9   | 60.3              | 44.5                 | 50.00     | 47.20 |                      |        |                   |                      |           | 1.35            | 1.45              | 1.56    | 1.88              | 1.88              |        |

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IX.—*Notices of British Hypogæous Fungi.* By the Rev. M. J. BERKELEY, M.A., F.L.S., and C. E. BROOME, Esq.

SINCE the publication of the last series of notices of British Fungi (vol. xiii. p. 360), several interesting discoveries have been made amongst the hypogæous species, which it is desirable should at once be recorded. It is to be regretted that the memoir of Messrs. Tulasne has not yet been published, though presented to the Academy. Two recent opportunities however of inspecting their drawings, and the communication of many new and rare species, as also the receipt of a very complete collection of authentic specimens from Vittadini and Corda, have enabled us to ascertain some points which were previously uncertain.

Doubtless many more species will reward the continued researches in a field which is almost new to British botanists, and there is every reason to believe that the greater part of the species are pretty generally diffused. The list of indigenous species in proportion to our flora is already as large as in France or Italy. It would not be fair to omit recording the active researches of Mr. Thwaites, to whom we are indebted for many valuable observations.

I. SPECIES SPOROPHORE.

\**Hymenogaster luteus*, Vitt. Mon. Tub. p. 22. *Splanchnomyces luteus*, Corda, Fasc. 6. tab. 8. fig. 76. ined. Apethorpe, Norths, July; Rushton, Norths, Oct.

Varying somewhat in the depth of the yellow tint of the hymenium, but always easily recognised by the character of the spores.

\**H. olivaceus*, Vitt. *l. c.* p. 24.

Our British specimens accord very exactly in the form of the spores with those of Vittadini, in which however the colour of the hymenium when dry is of a redder tinge.

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